

RealWorld – RealCity – RealTerrain

Airborne Reality Capture – The Integral World of Leica Airborne Solutions

Hartmut Rosengarten

Leica Geosystems Technologies GmbH
Heinrich-Rieger-Str. 1
D-73430 Aalen, Germany
hartmut.rosengarten@leica-geosystems.com

ABSTRACT

For more than 100 years the well known brands Leica and Zeiss have been known as leading edge technology companies developing, selling and servicing photogrammetric equipment to help mapping the world. Over decades the systems have evolved towards more automation and higher productivity. A major step was the transition from analogue to digital systems drastically increasing performance as well as the potential of the delivered data. And today we are talking solutions instead of systems generating a high speed workflow from mission planning to a full 3-D application. At the same time our geospatial world is challenging an immense growing volume of big data requiring the right technologies to filter, extract or derive what the end user needs in terms of smart solutions, e.g. smart cities.

Leica Geosystems being part of the Hexagon Group is now going to do the next step on the way to meet today's requirements. The drastical changes in our societies along with the ongoing urbanisation in particular requires faster and more efficient solutions to reproduce our real world in a digital world. This will then allow a much better integrated planning, before we step back to the real world for final construction and later maintenance. And looking beyond it leaves the chance to even bridge ideally our level of perceptions with reality – at this year's HxGN LIVE worldwide user meeting we called it "perceptality"! As a consequence Leica Geosystems is pursuing a clear strategy towards "solutions instead of systems" and "integration instead of monolithic workflows". We will need to manage complex projects with data coming from different sources. Data capture, processing, integration and analysis will no longer come from independent flow lines such as terrestrial scanning, total stations, mobile mapping or airborne sensors. We will need to combine such geospatial as well as relevant meta data by using the right combination of technology in order to build a digital world ready to deliver smart solutions for professionals as well as consumers.

With reference to Leica's airborne mapping solutions a first major step has been the redesign of the different production flow lines towards a modular software architecture called HxMap. This powerful environment unifies the different office workflows within one GUI no matter if you manage imagery or Lidar data, oblique or large format camera data, topographic or bathymetric Lidar input. Depending on applications and requirements the user will benefit from different packages

- HxMap RealWorld – wide area ortho mapping and DSM (DMC III, ADS 100)
- HxMap RealCity – 3-D smart city solutions (CityMapper, RCD30 Oblique, DMC III)
- HxMap RealTerrain – Lidar data processing (ALS 80, SPL100)

This presentation will finally give a short update on Hexagon's Content & Engineering business (CES). Programs such as HxIP (Imagery) as well as HxEP (elevation) have been established to meet a growing demand for more global or regional data content required to mainly address professional needs from global or larger industry or governmental organisations. Leica is supporting these programs with their commercial airborne sensor technology as well as a global customer network highly competent to manage operations.

REFERENCES

Dold, Jürgen (2017): Hexagon Geosystems Keynote Presentation, International Hexagon User Conference HxGN LIVE, Las Vegas

Beshah, Belai (2017): HxMap – New Performance in Geospatial data Production, International Hexagon User Conference HxGN LIVE, Las Vegas

Roth, Ron (2017): SPL100 versus ALS80 – Competitive or complementary?, International Hexagon User Conference HxGN LIVE, Las Vegas

Wald, Bruce (2017): HxCP – The Hexagon Content Programs, International Hexagon User Conference HxGN LIVE, Las Vegas

Leica Product Flyers & Product Specs